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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/560,893

12/16/2005

Luca Boiero

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EXAMINER

NGUYEN, NGA X

ART UNIT

PAPER NUMBER

3662

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,893	<b>Applicant(s)</b> BOIERO ET AL.	
	<b>Examiner</b> NGA X. NGUYEN	<b>Art Unit</b> 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 41, 46-56, 59-66, 79 and 81-85 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 41, 46-56, 59-66, 79 and 81-85 is/are rejected.
- 7) ☒ Claim(s) 52, 53, 65 and 66 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/03/2007 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 41, 46-49, 51, , 54, 56, 59-62, 64, 82-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat (6061018) in view of Zhao (6756938).

With regard to claim 41, 55, 79 & 81, Sheynblat discloses:

- A mobile terminal is adapted to receive satellite signals from satellite-based system, and to be covered by at least one cell of the cellular communication system (see column 4, lines 18-45).
- Determining at least approximately the coordinates of the mobile terminal based on both satellite signals and information related to the cellular communication system (see column 6, lines 17-64)
  - o indemnifying a plurality of base stations adjacent to the mobile device which has a respective altitude coordinate (see Fig.4)
  - o Determining the coordinate of the mobile device using the estimate of the altitude coordinate and information provided by the satellite system (see column 9, lines 10-51).

Zhao teaches:

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- Deriving an estimate of the altitude coordinate for the mobile device by determining an average value for the respective altitude coordinates of the plurality of adjacent base stations (see column 2, lines 52-58).

It would have been obvious to modify Sheynblat by incorporating the teaching of Zhao's system to determine an estimate altitude by using an average value for the respective altitude coordinates of the base stations so as the system can perform three dimension coordinate for a mobile device.

With regard to claim 46, 59, Zhao teaches a weighted least square algorithm producing the true position from network or multiple iterations (see column 4, lines 1-9) which meets the claims.

With regard to claim 47, 60, Zhao teaches that the position coordinates are determined in an iterative manner (see column 3, lines 25-39).

With regard to claim 48-49, 61-62, Sheynblat teaches providing an approximate 2D positioning of the terminal on the basis of the information related to the cellular communication system and then estimate the altitude coordinate (see column 9, lines 32-50).

With regard to claim 51, 64, Sheynblat teaches determining a 1<sup>st</sup> and 2<sup>nd</sup> set of values for location coordinate on the basis of related to the cellular communication system and satellite signals (see column 9-10, lines 52-14).

With regard to claim 54, Shyenblat teaches determining the approximately coordinate based on satellites received from less than three SATs (see column 1, lines 58-63).

With regard to claim 56 & 82, Sheynblat teaches:

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- Providing a geographical data base comprising data base items associated with a given set of bi-dimensional positioning coordinates of the mobile terminal in the area corresponding to values for the altitude coordinate (see column 9, lines 52-67).
- Accessing the geographical data base via the mobile terminal whereby the positioning coordinates, as at least approximately determined by the mobile terminal based on the satellite signals (see column 10, lines 14-29).

With regard to claim 83-85,

- Determining at least one approximate search area using the estimate of altitude coordinate and information provided by the satellite (see column 9, lines 35-38)
- Identifying the coordinates of the mobile device in the at least one approximate search area (see column 9, lines 40-42)

2. Claim 50, 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat and Zhao as applied to claim 41 above, and further in view of Cedervall (20010046869).

Cedervall teaches defining the search area for position coordinate in the form of a hyperbolic set of point, then determining the positioning coordinates within the hyperbolic set of point (see page 4, paragraph 61-70).

It would have been obvious to modify Sheynblat and Zhao by incorporating the teaching of Cedervall's system to determine position coordinate within the hyperbolic set of point so as the system is performing the mobile terminal's location information more accuracy.

***Allowable Subject Matter***

3. Claim 52-53 & 65-66 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

***Response to Amendment***

4. Applicant's arguments with respect to amended claims 41, 55, 79 & 81 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGA X. NGUYEN whose telephone number is (571)272-5217. The examiner can normally be reached on 8:00AM-5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TARCZA H. THOMAS can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NGA X NGUYEN  
Examiner  
Art Unit 3662

NXN

/Thomas H. Tarcza/

Supervisory Patent Examiner, Art Unit 3662